EXHIBIT 1

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
TYLER DIVISION

IMPLICIT, LLC,	§	
	§	
Plaintiff,	§	
	§	Civil Action No. 6:17-cv-336-JRG
vs.	§	(CONSOLIDATED CASE)
	§	
PALO ALTO NETWORKS, INC.,	§	
	§	
	§	
Defendant.	§	
	§	

DECLARATION OF INGRID HSIEH-YEE, Ph.D.

7. I am currently a Professor in the Department of Library and Information Science at the Catholic University of America. I have experience working in an academic library, a medical library, and a legislative library and have been a professor for more than 25 years. I hold a Ph.D. in Library and Information Studies from the University of Wisconsin-Madison and a Masters in Library and Information Studies from the University of Wisconsin-Madison.

8. I am an expert on library cataloging and classification and have published two books on this subject, *Organizing Audiovisual and Electronic Resources for Access*: *A Cataloging Guide* (2000, 2006). I teach a variety of courses, including Cataloging and Classification, Advanced Cataloging and Classification, Organization of Internet Resources, Organization of Information, Digital Content Creation and Management, Internet Searches and Web Design, Information Literacy Instruction, and Advanced Information Retrieval and Analysis Strategies. My research interests cover cataloging and classification, information organization, metadata, information retrieval, information architecture, digital collections, scholarly communication, user interaction with information systems, and others.

9. I am fully familiar with a library cataloging encoding standard known as the "Machine-Readable Cataloging" standard, also known as "MARC," which became the national standard for sharing bibliographic data in the United States by

1971 and the international standard by 1973. MARC is the primary communications protocol for the transfer and storage of bibliographic metadata in libraries. Experts in my field would reasonably rely upon MARC records when forming their opinions.

10. A MARC record comprises of several fields, each of which contains specific data about the work. Each field is identified by a standardized, unique, three-digit code corresponding to the type of data that follows. **Appendix B** is a true and correct copy of Parts 7 to 10 of "Understanding MARC Bibliographic" (http://www.loc.gov/marc/umb/) from the Library of Congress that explains commonly used MARC fields. For example, the personal author of the work is recorded in Field 100, the title is recorded in Field 245, publisher information is recorded in Field 260, the physical volume and characteristics of a publication are recorded in Field 300, and topical subjects are recorded in the 650 fields.

11. The Online Computer Library Center (OCLC) is the largest bibliographic network of the world, with more than 380 million records and more than 16,964 member institutions (many of which are libraries of some type) from 122 countries. According to the "Third Article, Amended Articles of Incorporation of OCLC Online Computer Library Center, Inc.," OCLC was created "to establish, maintain and operate a computerized library network and to promote the evolution of library use, of libraries themselves, and of librarianship, and to provide

searchable and viewable on WorldCat, which is a web portal to more than 10,000 libraries worldwide. The record in WorldCat, however, is not presented in MARC fields. Instead, the data elements are labeled to help users interpret the record. WorldCat (http://www.worldcat.org) is "the world's largest network of library content and services." Through WorldCat users can search for information in their local libraries and libraries around the world. WorldCat allows users to search for books, CDs, videos, and many new types of digital content, such as audiobooks. Users can also retrieve research materials and article citations with links to their full text. After an item is retrieved, WorldCat helps users identify a library nearby that holds the item or all the libraries that hold the item. WorldCat is an efficient way to explore the content held by more than 10,000 libraries around the world.

14. Library online catalogs are based on MARC records that represent their collections in order to help the public understand what materials are publicly accessible in those libraries. Most libraries with online catalogs have made their catalogs freely available on the Web. These online catalogs offer user-friendly search interfaces. Strong user interest in keyword searches and the popularity of Google have led to the "googlization" of library search systems. As a result, many library catalogs now provide a single search box for users to conduct keyword searches, with additional support for searches by author, title, subject terms, and other data elements such as ISBN (International Standard Book Number). Library

catalogs these days also offer features for users to narrow their search results by language, year, format, and other elements. Many libraries display MARC records on their online catalogs with labels for the data elements to help the public interpret MARC records. Many libraries also offer the option to display MARC records in MARC fields.

15. Libraries create MARC records for works they acquire, including books, serials, motion pictures, and publications in other formats. According to the glossary of the *RDA: Resource Description and Access* cataloging standards, a serial is "a resource issued in successive parts, usually having numbering, that has no predetermined conclusion (*e.g.*, a periodical, a monographic series, a newspaper)." Because the publisher of a serial makes new issues of the serial available successively, a customary cataloging practice is to create one bibliographic record for the serial, and the MARC serial record typically provides information on the beginning date and frequency of the serial, not the dates of individual issues. In other words, libraries typically do not create MARC records for individual issues of a serial. Instead, they rely on a serial check-in system to track the receipt of new issues. A common check-in practice is to date stamp a new issue when it arrives. This practice has become automated since the late 1990s, and libraries now vary in how they share the receipt date of a new serial issue with the public. Some libraries use a date stamp, some affix a label to

followed by "Seventeenth Annual Joint Conference of the IEEE Computer and Communications Societies," "Gateway to the 21st Century," the date and location of the conference, and IEEE Computer Society and IEEE Communications Society as sponsors.

20. The copyright page shows a copyright date of 1998 and the Institute of Electrical and Electronics Engineers, Inc. as the copyright owner. The copyright page also presents the IEEE Catalog numbers for this publication, four ISBNs (International Standard Book Numbers) for four formats of this publication, and the ISSN (International Standard Serial Number) of the conference proceedings as a serial: 0743-166X. The table of contents of **Exhibit PA-0001** shows on page 19 that "DAN: Distributed code caching for Active Networks" by Decasper et al. appears from pages 609 to 616.

a. Library of Congress Bibliographic and MARC Records

Exhibit PA-0002 (Library of Congress)

21. **Exhibit PA-0002** is a true and correct copy of the Bibliographic record for the serial, *Proceedings IEEE INFOCOM*, which contains Decasper. I personally identified and located this record on June 25, 2018, which experts in my field would reasonably rely upon when forming their opinion. **Exhibit PA-0002** informs me Library of Congress treats "Proceedings IEEE INFOCOM" as a serial

because it is an "annual" publication, and the Library holds "1983-2001" and later volumes. The publication has a call number of "TK5105.5 .I32a" and the "Item Availability" area shows that this publication is available as an "electronic resource" and as a print publication. Interested users can request access to the print copies at the "Jefferson or Adams Building Reading Rooms."

Exhibit PA-0003 (Library of Congress)

22. Exhibit PA-0003 is a true and correct copy of the MARC record for the serial, *Proceedings IEEE INFOCOM*, which contains Decasper. I personally identified and located this record on June 25, 2018, which experts in my field would reasonably rely upon when forming their opinion. Subfield ǂa of Field 040 of the MARC record informs me the record was originally created by "MCA," the OCLC symbol for the BOEING CO, ST LOUIS TECHNICAL LIBRARY, according to the Directory of OCLC Members (https://www.oclc.org/en/contacts/libraries.html); and subfield ǂd indicates "DLC," the OCLC symbol for Library of Congress, modified the original record. Field 008 informs me the record was created on "820819" (*i.e.*, Aug. 19, 1982). The code "c" following the record creation date indicates the MARC record represents a publication that is a "continuing resource" and the dates following "c" in the form of "19829999" indicate the publication began in 1982 and is currently being published.

23. Field 022 presents the ISSN of this serial as "0743-166X," which matches the ISSN on the copyright page of **Exhibit PA-0001**. A customary cataloging practice is to use the name of a conference as the author of the conference proceedings. Field 111 reflects that practice by presenting the conference name in the form authorized for cataloging purposes, "IEEE INFOCOM." Subfield ǂa of Field 245 shows the main title is "Proceedings" and subfield ǂc shows "IEEE INFOCOM" is the author. Four variant titles are presented in Field 246s so that users can find this publication by those titles. Field 260 shows that the IEEE Computer Society Press of Silver Spring, MD, has published this serial since 1982. Field 310 shows the publication frequency of this serial is "Annual" and Field 362 shows the serial began in 1982. Field 530 shows that the serial is also "issued online."

24. Field 050 shows that this publication has a call number by which users can request the item. Subfield ǂa of Field 050, "TK5105.5," is a Library of Congress Classification (LCC) number, which is the class number for "Computer networks" in the LCC system. Users interested in this topic could explore a library's materials in this topic area by entering this number in a library catalog as a keyword. The Library of Congress online catalog, for example, will retrieve materials that have been assigned this subject number when a user enters "TK5105.5" in its single search box. In addition, subjects of this serial are

represented by three Library of Congress subject headings: Computer networks, Data transmission systems, and Telecommunication. Subfield ǂv "Congresses" indicates these topics were presented at a conference. These subject terms can be searched in library catalogs as keywords to retrieve like items. This MARC record (**Exhibit PA-0003**) makes this serial, "Proceedings. IEEE INFOCOM," searchable at the online catalog of Library of Congress. It informs my opinion that this serial is a long running serial that has been made available at the Library of Congress, and users interested in the topics of the book can find it by the subject terms listed in Field 650s or the LCC number in Field 050. Field 035 indicates this MARC record has an OCLC control number of "08704142," which makes this publication discoverable on WorldCat. In other words, when users locate this publication on WorldCat, they will learn that Library of Congress holds this publication, as I did during my research on WorldCat.

b. <u>Library of Congress Date Stamp</u>

25. The title page of the *Proceedings of INFOCOM '98* in **Exhibit PA-0001** bears a date stamp of "Library of Congress APR 10 1998 Copyright Office." The stamp has the appearance and distinctive characteristics of a typical check-in date stamp utilized by the library. As I noted above, it is ordinary and regular practice for a library to maintain intake records, including date stamping serial issues during the check-in process, and to make a newly received serial issue

available to the public in the library shortly after the library receives and date stamps the issue, usually within a week after serial check in. In this case, it is my understanding that the Library of Congress, upon receiving the *Proceedings of INFOCOM '98* (**Exhibit PA-0001**), date stamped it on April 10, 1998, and shortly thereafter, would have placed it with other issues of the serial in the periodical room so as to make the issue findable and accessible to the public.

26. Based on the date stamp of April 10, 1998, the bibliographic record, the MARC record and my understanding of the ordinary and customary check-in practices of libraries, it is my opinion that Volume 2 of *Proceedings IEEE INFOCOM '98*, which contains Decasper, was accessible through the Library of Congress to the public shortly after it was checked in, usually within a week, by April 17, 1998.

Exhibit PA-0004 (UC Davis Library)

27. **Exhibit PA-0004** is a true and correct copy of DAN: distributed code caching for active networks by Decasper et al. ("Decasper2"), in *INFOCOM'98; Seventeenth Annual Joint Conference of the IEEE Computer and Communications Societies, Proceedings,* 1998, Vol. 2, pp. 609-616. The copy is produced in the litigation at DEFS_IMPL_060952 – DEFS_IMPL_060987 and a stamp on the title page shows the pages are from the University of California, Davis, Library. I have closely compared **Exhibit PA-0004** with **Exhibit PA-0001**, which I personally

description, publisher information, ISSN, and other identifying information such as the local system number, "990007861640403126."

30. **Exhibit PA-0006** is a true and correct copy of the MARC record for the journal, *Proceedings IEEE INFOCOM*, which contains Decasper2. I personally identified and located this record on June 25, 2018, which experts in my field would reasonably rely upon when forming their opinion. Subfield ǂa of Field 040 of the MARC record informs me the record was originally created by "MCA," the OCLC symbol for the BOEING CO, ST LOUIS TECHNICAL LIBRARY, according to the Directory of OCLC Members (https://www.oclc.org/en/contacts/libraries.html); and Field 008 informs me the record was created on "820819" (*i.e.*, Aug. 19, 1982). The code "c" following the record creation date indicates the MARC record represents a publication that is a "continuing resource" and the dates following "c" in the form of "19829999" indicate the publication began in 1982 and is currently being published. These data inform me that the UC Davis Library MARC record is a copy cataloging record based on the record originally created by MCA.

31. Because the UC Davis Library MARC record (**Exhibit PA-0006**), like the LC MARC record (**Exhibit PA-0003**), is a copy cataloging record based on the record originally created by MCA, it is not surprising that the two records are very similar in content. From Field 111 to Field 776 the two records provide nearly

identical content and encode the data in the same MARC fields. The differences are that the Library of Congress MARC record encodes the call number in Field 050, which is used by the Library of Congress only, while the UC Davis Library MARC record encodes their call number in Field 090. The LC record has been updated to reflect latest cataloging practice and includes Fields 336, 337, and 338. It also has a general note in Field 500 indicating "some volumes have distinctive titles" and a format note in Field 530 indicating "also issued online. Field 558 shows "latest issue consulted: 25th (2006)," meaning that is the issue consulted when the record was updated. The UC Davis Library MARC record has a general note in Field 500, "latest issue consulted: 23rd (2004)," meaning that is the issue they consulted when they updated the record. The record also has a local note in Field 590, "Also available online as a monograph through the California Digital Library," indicating the nature of the online version.

b. UC Davis Library Date Stamp

32. The title page of **Exhibit PA-0004** bears a stamp, "U.C. DAVIS APR 30 1998 SER.REC.LIBRARY," which has the appearance and distinctive characteristics of a typical check-in date stamp utilized by a library to indicate the date a particular periodical issue was received by the library. As I noted above, it is ordinary and regular practice for a library, as part of its cataloging activity, to maintain intake records, including date stamping periodical issues during the

check-in process, and to make an issue of a periodical available to the public in the library shortly after the library receives and date stamps the issue for serial check-in, usually within a week. In this case, it is my understanding that the UC Davis Library, upon receiving *Proceedings IEEE INFOCOM '98*, date stamped it on April 30, 1998 (as shown in **Exhibit PA-0004**), and shortly thereafter, would have placed it with other recent issues of the periodical in the periodical room so as to make the issue findable and accessible to the public. In academic libraries the newly date stamped issue would have been available within a week after serial check-in.

33. Taken together, the UC Davis Library bibliographic record, MARC record, and the date stamp support my opinion that the *Proceedings IEEE INFOCOM '98*, which contains Decasper 2, was publicly accessible shortly after the volume was checked in, meaning it would have been available to the public no later than May 7, 1998.

Summary of Opinion.

34. In view of the above, I conclude that the *IEEE INFOCOM Proceedings* is a long-running serial made searchable at the Library of Congress and the University of California Davis Library. I also conclude that the Decasper article, DAN: distributed code caching for active networks, contained in *INFOCOM'98 Proceedings, Vol. 2, pp. 609-616,* was received by the Library of

Congress on April 10, 1998, and by the UC Davis Library on April 30, 1998, respectively. Based on my understanding of cataloging and processing practices in libraries, it is my opinion that Vol. 2 of *Proceedings. INFOCOM '98*, which contains Decasper, was available to the public at the Library of Congress in April 1998 and at the UC Davis Library in May 1998. In each case, a person reasonably familiar with library resources and/or on-line searching could have found the records through a reasonably diligent search by title, the name of the conference, call number, or subject terms on or before these dates and access the volumes at these libraries.

35. I declare under penalty of perjury, pursuant to 28 U.S.C. § 1746, that the foregoing is true and correct.

Date: 6-29-2018 Executed: Ingrid Hsieh-Yee

Ingrid Hsieh-Yee, Ph.D.